# INSTALLER'S & OWNER'S MANUAL

*HVAC INSTALLER: PLEASE LEAVE MANUAL FOR HOMEOWNER*

# Ultra·Aire™ DEH 3000R

Part No. 4028407

## Dehumidifier & Ventilation System Controller

Therma-Stor® LLC
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**Read and Save These Instructions**

⚠ **WARNING! — This symbol means important instructions. Failure to heed them can result in serious injury or death.**

## 1. Specifications

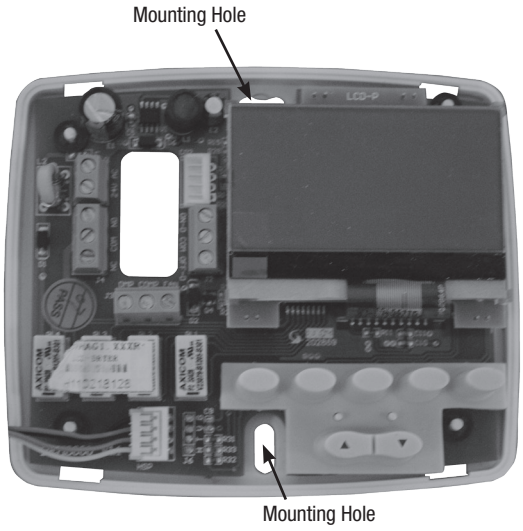
| | |
|---|---|
| Part # (P/N): | 4028407 |
| Model: | DEH 3000R |
| Operating Voltage: | 24 VAC |
| Max Current - DMP, COMP, FAN | 1 AMP each |
| Humidity Range/Accuracy: | 10 – 95% RH, ± 5% |
| Auxillary Relay Capacity: | 5 Amps, 24VAC |
| Temp Range/Accuracy: | 30°-90°F, 2% |
| Size: | 4.95"L x 1.06"W x 4.19"H |

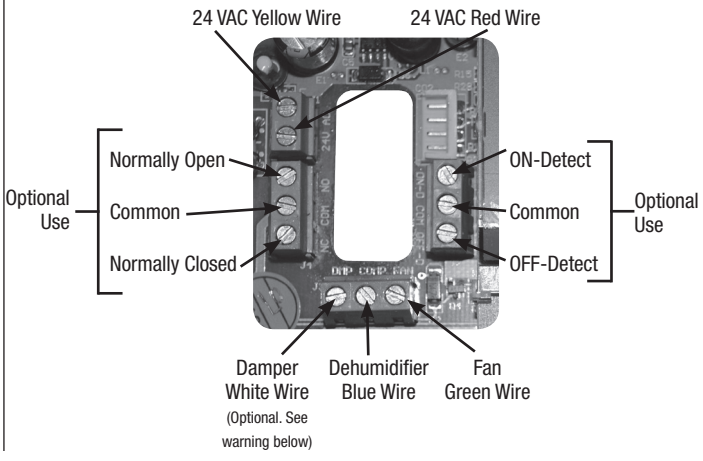
## 2. Installation

Install the DEH 3000R remote sensor in a central area of the structure where it will sense the relative humidity of the structure accurately. Do not install the remote sensor where it may not accurately sense the relative humidity such as near HVAC supply registers, near exterior doors and windows, or near a pool or spa. Install in accordance with all applicable codes and standards.

### 2.1 Install Instructions

1. Separate the front panel from the back panel by depressing the middle sections of the top and bottom of the front panel.
2. Locate the wiring access hole in the wall or other flat mounting surface. Place the back panel into position and drill the appropriate mounting holes.
3. Insert the screws and tighten. Level as necessary.
4. Make the electrical connections to the terminals on the back panel as shown in the applicable wiring diagram (see Sections 2.2-2.4).
5. Test the installation (see Section 2.5).



## 2.2 Wiring

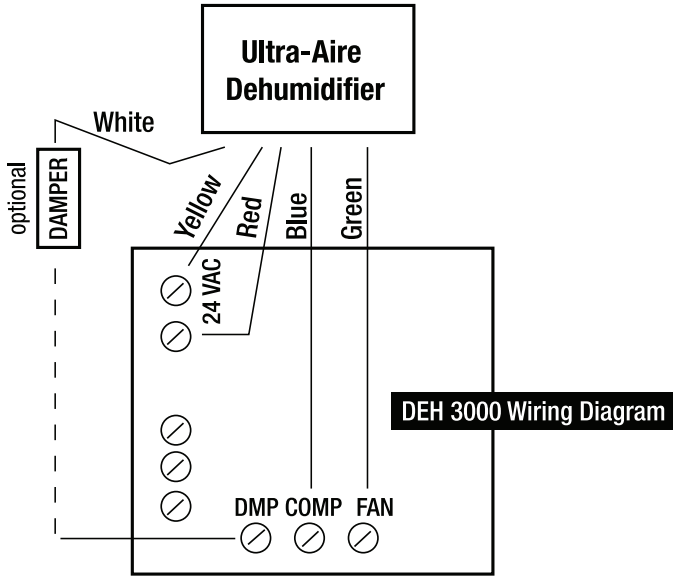
**⚠ WARNING! DO NOT ALLOW THE YELLOW WIRE FROM THE ULTRA-AIRE DEHUMIDIFIER TO CONTACT THE RED OR WHITE WIRES FROM THE ULTRA-AIRE DEHUMIDIFIER, DAMAGE TO THE 24-VOLT TRANSFORMER WILL RESULT.**

**⚠ WARNING! THE REMOTE CONTROL OF THE ULTRA-AIRE DEHUMIDIFIER OPERATES ON A LOW VOLTAGE CIRCUIT (24 VAC) AND MUST NEVER CONTACT OR BE CONNECTED TO A HIGH VOLTAGE CIRCUIT.**

**⚠ WARNING! UNPLUG THE ULTRA-AIRE DEHUMIDIFIER BEFORE WIRING THE DEH 3000R.**

The installer must supply all field wiring, including the wiring between the Ultra-Aire dehumidifier and the DEH 3000R. Some of the control wires leaving the Ultra-Aire may not be used in some control situations and should be left disconnected with wire nuts taped onto the stripped ends.

Be sure to consult the electrical schematic in this manual or the internal electrical box of the Ultra-Aire dehumidifier before making any control connections.




**⚠ WARNING! ONLY CONNECT THE WHITE WIRE TO THE CONTROL IF IT IS WIRED IN A CIRCUIT THROUGH AN ELECTRIC DAMPER, OTHERWISE TRANSFORMER DAMAGE MAY RESULT.**

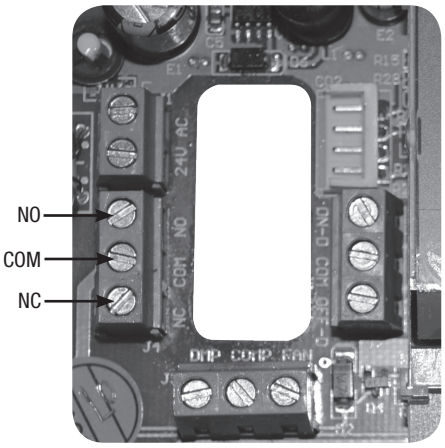
The White wire controls the optional motorized damper that can be installed into a fresh air duct. This damper provides the ability to control fresh air ventilation using the ventilation timer function of the DEH 3000R and the terminal labeled **"DMP"** on the DEH 3000R (See Section 3.8). Leave the **"DMP"** terminal unused if a motorized damper is not used, and cap off the White wire from the Ultra-Aire dehumidifier.

**Standard wire colors for thermostats are as follows:**

| Description | Color | Terminal code |
|---|---|---|
| 24VAC | Red | R |
| Call for Heat | White | W or W1 |
| Force Fan On | Green | G |
| Compressor Call for Cooling | Yellow | Y or Y1 |

## 2.3 Auxiliary relay operation

It may be desirable to coordinate fan operation of the central heating/cooling system with dehumidifier operation. The DEH 3000R contains a relay that provides this ability.



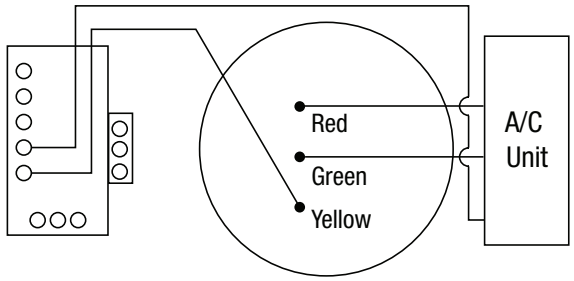

The relay terminals labeled NC, COM and NO operate according to the following chart:

| DEHUMIDIFIER | COM to NO | COM to NC |
|---|---|---|
| ON | CONNECTED | OPEN |
| OFF | OPEN | CONNECTED |

Common uses (assuming standard thermostat wiring colors as noted):

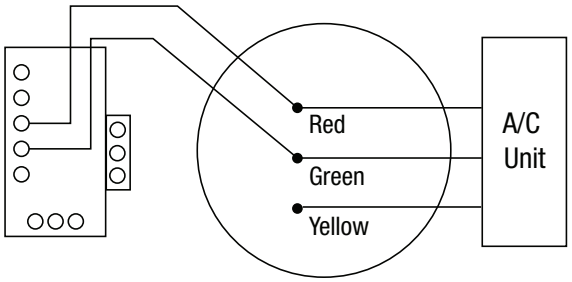
**Lock-out the A/C during dehumidification**
This will turn off the A/C whenever the dehumidifier runs.

1. Wire the Yellow thermostat terminal to the NC terminal on the DEH 3000R.
2. Run the Yellow wire from the A/C unit to the COM terminal on the DEH 3000R.



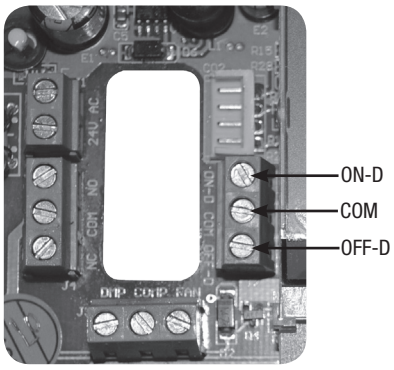

**Energize the A/C central fan during dehumidification**
To automatically run the A/C FAN when the dehumidifier runs.

1. Attach a second Green wire to the Green fan wire terminal on the thermostat.
2. Connect the new Green wire to the COM terminal on the DEH 3000R.
3. Run a wire from the Red terminal on the thermostat to the NO (Normally Open) terminal on the DEH 3000R.




## 2.4 Dehumidifier lock-OFF or lock-ON:

**A/C sensor feature**
To automatically activate or deactivate the dehumidifier when the air conditioner runs.

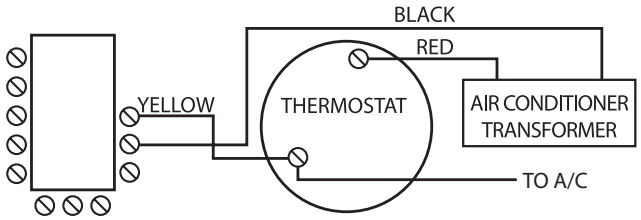



**Activate dehumidification when the air-conditioner is running**
A voltmeter is required for the next steps to ensure the correct wiring from the A/C transformer is used to set up the Lock-in dehumidifier function.

1. The common wire from the existing A/C transformer (usually Black) must be attached to the "COM" sensor terminal between "ON-D" and "OFF-D" on the DEH 3000R.

**TIP: The common wire can be identified as the wire from the A/C transformer that reads 0 volts between it and the Yellow air conditioning call for cooling wire.The incorrect wire will give a 20 to 28 volt reading.**

2. Another Yellow wire must be added to the thermostat Yellow terminal and run to the **"ON-D"** sensor terminal on the DEH 3000R.

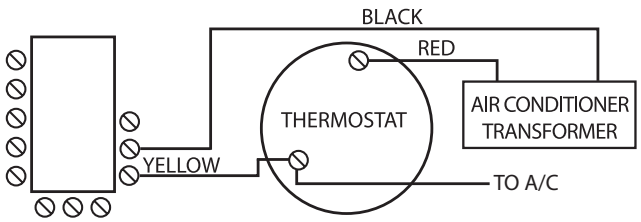



**Deactivate dehumidification when the air-conditioner is running**
A voltmeter is required for the next steps to ensure the correct wiring from the A/C transformer is used to set up the Lock-out dehumidifier function.

1. The common wire from the existing A/C transformer (usually Black) must be attached to the "COM" sensor terminal between "ON-D" and "OFF-D" on the DEH 3000R.

**TIP: The common wire can be identified as the wire from the A/C transformer that reads 0 volts between it and the Yellow air conditioning call for cooling wire. The incorrect wire will give a 20 to 28 volt reading.**

2. Another Yellow wire must be added to the thermostat Yellow terminal and run to the **"OFF-D"** sensor terminal on the DEH 3000R.



## 2.5 Testing

Verify the wiring connections.

**⚠ WARNING! ONLY CONNECT THE WHITE WIRE TO THE CONTROL IF IT IS WIRED IN A CIRCUIT THROUGH AN ELECTRIC DAMPER, OTHERWISE TRANSFORMER DAMAGE MAY RESULT.**

After checking the wiring, this short test will confirm proper hook-up.

1. Install front cover of the DEH 3000R; connect the top first, then the bottom.
2. Plug in the Ultra-Aire dehumidifier. The DEH 3000R should power up.
3. Turn the DEH 3000R ON by pressing the **"ON/OFF"** button.
4. Verify dehumidification operation by adjusting the RH **"SETPOINT"** to below the **"%RH"** reading on the display. Use the down **"RH"** button. Confirm Ultra-Aire fan and compressor operation. Both should be ON now.

Increase the RH **"SETPOINT"** on the display to well above the **"%RH"** reading on the display. Press the **"RH"** up arrow to increase the RH **"SETPOINT"**.

After running the dehumidifier compressor the DEH 3000R applies a 10 minute restart lockout on all functions. You will have to wait for the restart lockout to expire.

5. Verify FAN-only operation:
   a. Check the **"VENT"** mode on the display, it will either be **"CLOSED"** or **"OPEN"**. If it is **"CLOSED"** go to the next step. If it is **"OPEN"**, press and hold the **"VENT"** key until "**OPEN"** flashes on the display, release the key and then press it one more time. **"OPEN"** will change to **"CLOSED"**. Don't touch the keys for several seconds until it stops flashing.
   b. Press and hold the **"FAN"** button until **"AUTO"** begins flashing on the display, release it, and then press it again to switch the fan to the **"ON"** setting.
   c. Confirm that the Ultra-Aire fan is ON. Ultra-Aire compressor must be OFF. Ventilation damper (if used) should be CLOSED.
6. Verify optional VENT operation (if electric damper is installed):
   a. Press and hold the **"FAN"** button until **"ON"** flashes on the display.
   b. Release the **"FAN"** button, then press it again to switch fan operation to **"AUTO"**.
   c. Press and hold the **"VENT"** button until **"CLOSED"** flashes on the display.
   d. Release the **"VENT"** button, then press it again to switch vent mode to **"OPEN"**.
   e. Confirm that the Ultra-Aire fan is ON. Ventilation damper is OPEN. Ultra-Aire compressor must be OFF.
   f. Press and hold the **"VENT"** button until the **"OPEN"** flashes on the display.
   g. Release the **"VENT"** button, then press it again to switch vent mode to **"CLOSED"**.

**⚠ WARNING! DO NOT MAKE ANY OTHER CONNECTIONS OR TRANSFORMER DAMAGE MAY RESULT.**

7. Verify any additional optional control operations such as fan interlock or A/C lockout.
8. Proceed to the Operation section.

## 2.6 Troubleshooting

**FOR THE HVAC PROFESSIONAL:**

■ **No display on initial start up.**
Note: This is often the result of a drained capacitor. The capacitor will recharge once power is applied or re-applied to the unit.

– Verify unit has power.

– Turn unit off then on.

– Disconnect the unit from power source then re-apply power to the unit. Display should now operate.

■ **Function not working properly.**
– Verify wiring.

– Verify voltage with voltmeter.

■ **Dehumidifier not working properly.**
– See chart below:

| Wire connections | Operation |
|---|---|
| Yellow & Blue | Fan & Compressor |
| Yellow & Green | Fan Only |

## FOR INSTALLER & HOMEOWNER:

## 3. Operation

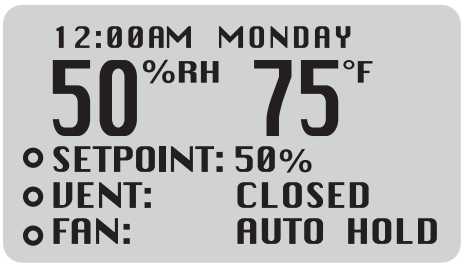
On the display screen, a solid **"0"** in front of any of the 3 functions (SETPOINT, VENT, FAN) indicates the function is operating. A flashing **"0"** indicates it is in a wait mode and not available at the moment. No **"0"** indicates the function is currently OFF.

| Solid "0" before | Indicates |
|---|---|
| SETPOINT | Dehumidifier on |
| VENT | Fresh air ventilation cycle in progress |
| FAN | Fan on |

Wait mode is a factory-programmed time period meant to prevent short cycles. This extends the life of the dehumidifier. When a flashing **"0"** is encountered, the unit is in wait mode and **IT COULD BE UP TO 10 MINUTES BEFORE OPERATION RESUMES.**

### 3.1 Display

- Whenever there is power to the control, it will display the time, the day, % relative humidity, and temperature.
- When the control is actually switched ON, the %RH setpoint, fan status, run mode (program or hold), and fresh air ventilation status is displayed.




- When a key is pressed the display will light for approximately ½ a minute.
- The Time and Day is displayed at the top of the screen.
- RH and Temperature are displayed in real time.
- A solid **"0"** before the SET POINT, VENT, OR FAN indicates the function is operating.
- A flashing **"0"** before the SET POINT, VENT, OR FAN indicates the unit is in wait mode.

### 3.2 Setting

During the set-up process, if you make a mistake, simply continue. You can always go back to adjust the settings. If you leave the control alone and don't touch any buttons for 10 seconds, the control will remember any changes made and return to the normal display screen, allowing you to proceed to the next step.

### 3.3 Personal Settings reference list

Please record your settings here.

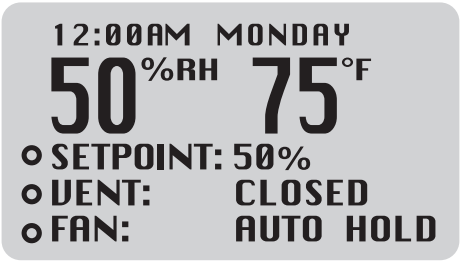
| Function | Factory setting | My Setting |
|---|---|---|
| SETPOINT (%RH) | 50% | |
| VENT | Closed | |
| FAN | Auto | |
| TEMP CUTOUT | 99° | |

### 3.4 On/Off and display items

Press the **"ON/OFF"** button to turn the system ON or OFF.

When the system is ON, the setpoint, fan status, operation mode (RUN or HOLD), and fresh air vent status is displayed.

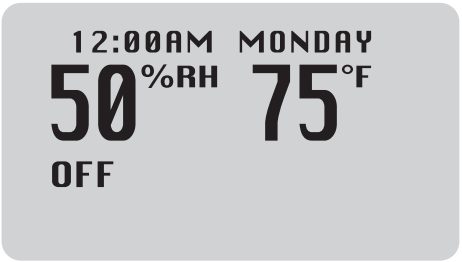
*DEH 3000 Switched ON*




When the system is OFF, the control will display the time, day, %RH, and temperature.

When the unit is shipped, it is in manual (hold) mode.

*DEH 3000 Switched OFF*




### 3.5 Setting Clock Time

1. Press and hold the **"CLOCK"** button. The hour display will flash. Release the button.
2. Use the up/down **"RH"** buttons to change the value.
3. Press the **"CLOCK"** button again and the minute display will flash. Use the **"RH"** buttons to change the value.
4. Press the **"CLOCK"** button again and AM or PM will flash. Use the **"RH"** buttons to change the value.

5. Press the **"CLOCK"** button again and the day display will flash. Use the **"RH"** buttons to change the value.
6. Don't touch any buttons for several seconds until the display stops flashing, this will save your settings. If you need to change anything go back to step #1.

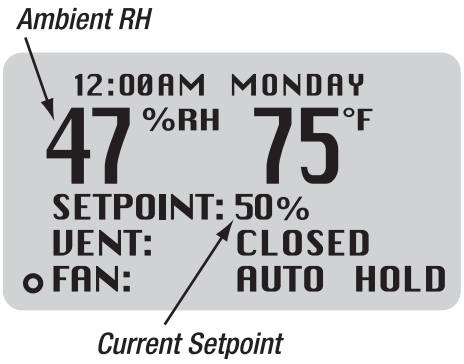
## 3.6 Adjusting the relative humidity "SETPOINT"

The DEH 3000R senses the ambient relative humidity (%RH) of the space where the remote sensor is located. It comes factory preset to hold 50% relative humidity.

The relative humidity **"SETPOINT"** (desired RH to be maintained) operates the dehumidifier function of the Ultra-Aire dehumidifier. It has no effect on the optional VENT (fresh air ventilation) or FAN (household air recirculation) functions if they are being used.

**Operation**

The standard range that the dehumidifier holds around your **"SETPOINT"** is 3%. With a setpoint of 50%, the dehumidifier will run until the relative humidity reaches 47%. The dehumidifier will then switch off until the relative humidity reaches 53%.




If the setpoint is higher than the ambient relative humidity, the space does not need to be dehumidified so the dehumidifier will not run.

Example: Setpoint: 50% RH

Current condition: 45% RH –The dehumidifier will be off (no **"O"** indicator will be displayed).

If your setpoint is below the ambient condition, the dehumidifier will be on and **"O"** will display.

Example: Setpoint: 50% RH

Current condition: 55% RH –The dehumidifier will be on (**"O"** displayed).

## 3.7 Fan Setting and Operation

Use the **"FAN"** button to change the fan operation. There are 2 choices for fan operation: **"ON"** or **"AUTO"**. The factory preset is **"AUTO"**.

**"ON"** –The fan in the Ultra-Aire dehumidifier will run continuously. This does not affect either the dehumidification or ventilation functions of the system. The system may or may not be ventilating or dehumidifying while the fan is running. This setting is commonly used for maximum air filtration and/or air recirculation.

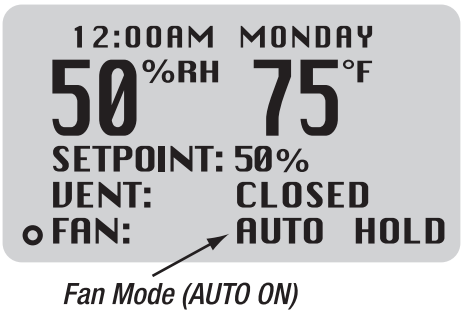
**"AUTO"** – Indicates the fan will run when the DEH 3000R calls for dehumidification or ventilation. If the control has not called for dehumidification for 3 hours, the control will automatically run the dehumidifier fan for 10 minutes.

After a dehumidification cycle, the fan automatically shuts off for 10 minutes. This pause allows the water to drain from the dehumidifier.

A solid **"O"** indicates the fan is operating. A flashing **"O"** indicates the fan is in a wait mode. No **"O"** indicates the fan is OFF.

**To set the operation:**

1. Press and hold the **"FAN"** button. The current fan setting will begin to flash on the display. Release the button.
2. Press the **"FAN"** button to toggle between the **"ON"** and **"AUTO"** modes.




With the fan in the **"AUTO"** mode, the fan will operate only when needed by other functions of the system. The fan will remain OFF unless the system is dehumidifying or ventilating. The fan always runs during dehumidification and ventilation and the fan **"O"** icon will be lit. To completely turn the system OFF, use the **"ON/OFF"** button as described earlier.

## 3.8 Damper Operation and Ventilation, Manual (Hold) Mode

The **"VENT"** setting controls the ventilation function of the system. It has no control over the dehumidification function. In order to provide ventilation, the motorized damper must be open and the fan must be running. The controller takes care of these two functions automatically so that whenever the damper is open, the fan is running.

The ventilation indicator **"O"** will be displayed whenever the unit is ventilating. The fan operation indicator **"O"** will also be lit.

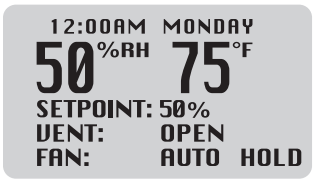
**There are three damper operation modes:**

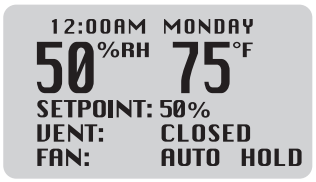
1. **"OPEN"** – hold mode: The damper will be open and the dehumidifier fan will be continuously operating to introduce fresh air into the space. Use this mode for continuous fresh air ventilation. The fan is always on when the damper is open.
2. **"CLOSED"** – hold mode: The damper will never open, and the dehumidifier will not ventilate. The fan will still operate normally for recirculation and dehumidification.
3. **"PROGRAMMED"** mode: The DEH 3000R will operate the motorized damper and the dehumidifier fan according to the programmed ventilation schedule (Section 3.9).

The factory preset for the **"VENT"** setting is **"CLOSED"**.

**To set "OPEN" – hold or "CLOSED" – hold ventilation operation:**

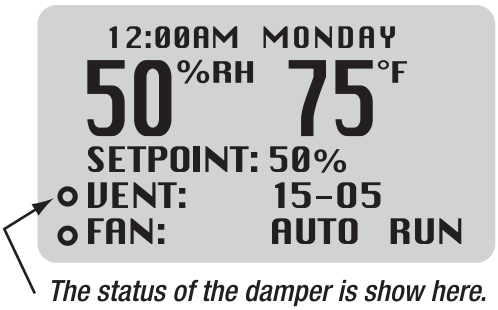
1. Press the **"VENT"** button. The current setting will begin to flash on the display. Release the button.
2. Press the **"VENT"** button again to switch between **"OPEN"** and **"CLOSED"**.
3. Leave the control alone for 10 seconds and your settings will be saved.




## 3.9 Damper Operation and Ventilation, Programmed Ventilation

This example shows the system in program mode (denoted by the schedule 15 minutes on, 5 minutes off and the word RUN in the lower right corner of the display).




*The status of the damper is show here.*
*O is open, blank is closed.*

The DEH 3000R will operate fresh air ventilation according to your ventilation program. The control needs to be programmed to turn the ventilation function ON and OFF at the desired intervals. This is done by programming the ventilation timer.

**There are two programs available for ventilation:**

1. Monday through Sunday
2. Monday through Friday & Saturday/Sunday

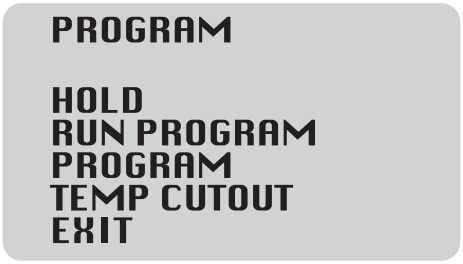
Each block of days has a morning schedule and a night schedule. Morning is the first 12 hours of the day and night is the second 12 hours.

Each schedule has:

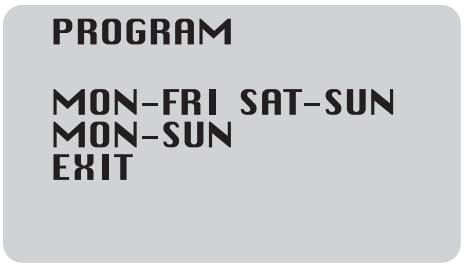
- A **"START"** time when the ventilation schedule begins,
- An **"OPEN FOR"** duration for the amount of time the damper stays open in 5 minute intervals, from 0 to 60,
- And **"CLOSED FOR"** duration which closes the damper for a specified time in 5 minute intervals from 0 to 60.

**Setting the Ventilation Program:**

1. Press the **"PROGRAM ENTER"** button until the following menu appears:



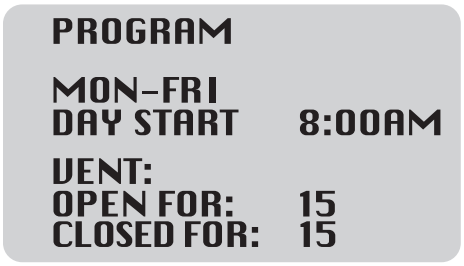

2. Using the up/down **"RH"** buttons, highlight **"PROGRAM"** and select it by pressing the **"PROGRAM ENTER"** button. The following menu appears:




You can select from:
**"MON-FRI" "SAT-SUN"** for separate weekday and weekend schedules, or **"MON-SUN"** which gives you equal weekday and weekend schedules.

3. Using the Up/Down **"RH"** buttons, highlight and then select one of the two choices. The example given shows how to program separate weekday and weekend schedules. The same method is used if you choose the other program.

Example: menu when you select **"MON-FRI" "SAT-SUN"**:




1. Enter the starting time for weekdays using the up/down **"RH"** buttons to change the time.
2. Press the **"PROGRAM ENTER"** button to switch to the **"OPEN FOR"** setting. Using the up/down **"RH"** buttons, change the duration that the damper will ventilate fresh air.
3. Press the **"PROGRAM ENTER"** button to switch to the **"CLOSED FOR"** setting. Using the up/down **"RH"** buttons, change the duration that the damper will remain closed between ventilation cycles.

For the example given, starting at 8:00AM in the morning, the control will ventilate fresh air for 15 minutes then stop for 15 minutes. This schedule of 15 minutes open, 15 minutes closed will continue until the start time of the night schedule.

Morning schedule is available anytime from 12:00AM until 11:59AM.

Night schedule is available anytime from 12:00PM until 11:59PM.

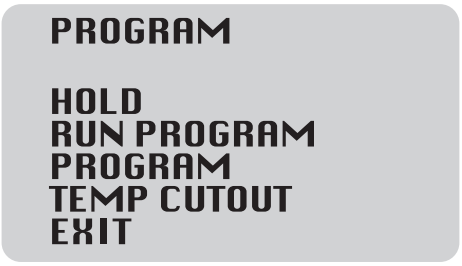
4. Press "**PROGRAM ENTER"** again to go to the **"MON-FRI"** night schedule. Repeat the steps listed above for this and the **"SAT-SUN"** day and night schedules.

When you have finished programming your schedule (either the 7-day version or the weekday/weekend split version), use the down "RH" button to highlight the EXIT option and then press **"PROGRAM ENTER"** to select it.

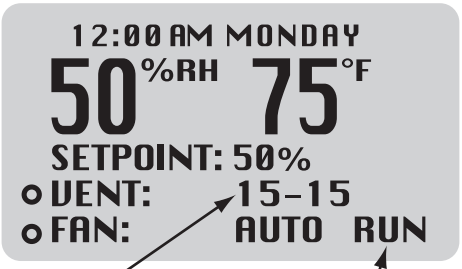
**Running the Ventilation Program**

Press and hold the **"PROGRAM ENTER"** button until the **"PROGRAM"** screen appears.

Use the down **"RH"** button to highlight **"RUN PROGRAM"**:




Then press **"PROGRAM ENTER"** to select it. The display will appear as follows:

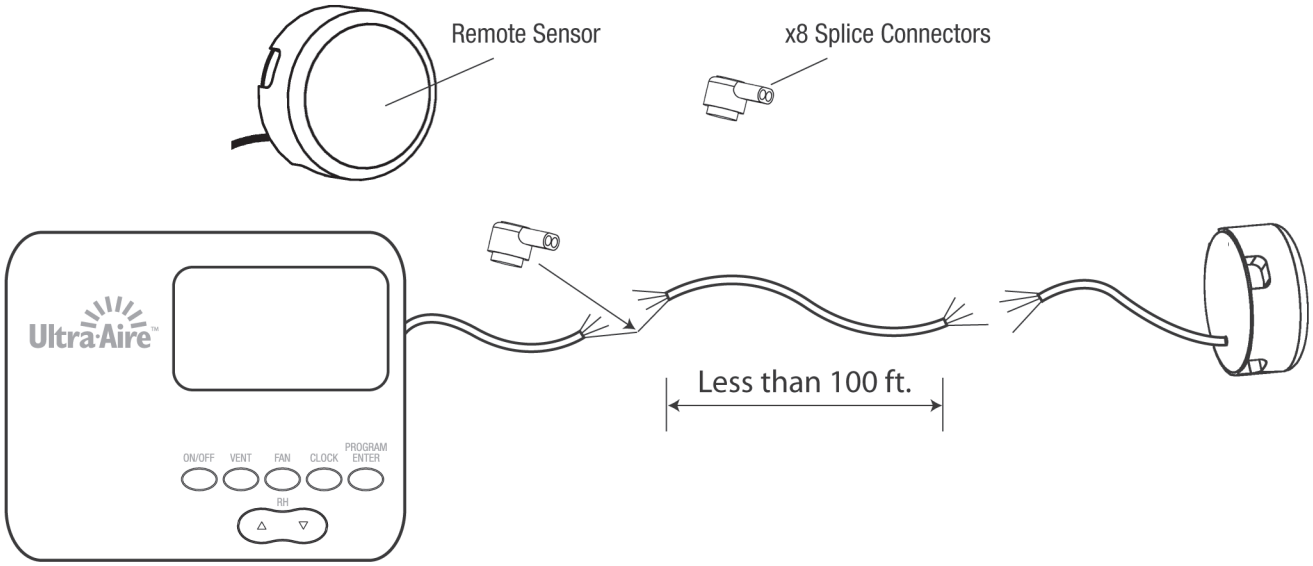



## 4.0 Temperature Cutout Programming

Dehumidifiers produce heat when dehumidifying and depending upon outside conditions, the ventilation function may also introduce warm air. Some conditions may introduce enough heat to drive household temperatures up. The DEH 3000R temperature cutout feature disables all Ultra-Aire operations if household temperatures reach the cutout setpoint.

In most installations this feature will not need to be used (the cutout is factory set to 99°F). If a lower temperature cutout is desired, program the setpoint by pressing and holding the **"PROGRAM ENTER"** button until the **"PROGRAM"** screen appears. Press the up/down **"RH"** buttons until **"TEMP CUTOUT"** highlighted. Then press the **"PROGRAM ENTER"** button again to select it. Now use the **"RH"** up or **"RH"** down buttons to adjust the setpoint. Press **"PROGRAM ENTER"** to return to the home screen.

## 5.0 DEH3000R — Remote sensor option. This section is applicable only to customers who have purchased a remote sensor package. The standard DEH 3000R controller does not offer remote functionality.




### 5.1 Remote Sensor Usage

### ⚠ IMPORTANT!

• The use of spray paint on the sensor housing may damage the sensor and is not covered by the product warranty.

The remote sensing option is used when an installation requires mounting the DEH 3000R out of the conditioned space or when it is desired to specifically monitor and control the conditions at a particular location in a larger conditioned space.

Both the need for and location of the remote sensor should be determined by a heating/cooling professional. In most installations, the onboard sensor in the DEH 3000R will be sufficient to monitor and control the conditioned space.

### 5.2 Install and Wiring Instructions

**1. Routing signal wires:**
You will be required to supply and route 24 gauge, 4 conductor solid wire (2-line telephone wire) between the DEH 3000R controller and the remote sensor location. The wiring run should be no longer than 100 ft. Avoid routing this interconnect wire parallel to high voltage wiring. Maintain a distance of 2 ft. or more from high voltage lines.

• Do not run wires longer than 100 ft.

• The use of 24 gauge wire is optimal. Thinner gauge wire may limit sensor distance. Thicker gauges will not work with splice connectors provided.

• Avoid routing parallel to high voltage wiring.

• Maintain a distance of 2 ft. or more from high voltage lines.

**2. Sensor connection:**
The sensor can be mounted to a wall or ceiling surface. Ideal sensor location is 5 ft. above the floor. Wires should exit through a ½" diameter hole in the mounting surface at the mounting location. Use the provided splice connectors to connect the 4 wires from the remote sensor to the user-supplied interconnect wire. Be sure to keep proper colors attached to each other.

**3. Sensor mounting:**
You will need two screws to mount the sensor. Use the two slotted holes to mount the base of the sensor to the wall and then snap the cover into place.

**4. Controller connection:**
Use the provided splice connectors to connect the 4 wires from the DEH 3000R to the user-supplied interconnect wire. Be sure to keep the proper colors attached to each other.

Continue with the installation as described in the rest of this manual.

Ultra·Aire™ DEH 3000R

# Dehumidifier & Ventilation System Controller

**Limited Warranty.** Therma-Stor, LLC ("Therma-Stor") warrants as follows: (i) the DEH 3000R ("Product") will be free of material defects in workmanship or materials for a period of three (1) year ("One-Year Warranty") following the date of initial purchase of such Product by an original customer purchasing from Therma-Stor or an authorized reseller ("Customer"); and (ii) the Product's condenser, evaporator, and compressor will be free of material defects in workmanship or materials for a period of five (5) years following the date of initial purchase of such Product by a Customer.

**Limitation of Remedies.** CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THE ABOVE LIMITED WARRANTY AND THERMA-STOR'S ENTIRE LIABILITY THEREUNDER, SHALL BE, AT THE SOLE OPTION OF THERMA-STOR, REPLACEMENT OR REPAIR OF SUCH PRODUCT OR ITS COMPONENTS ("COMPONENTS") BY THERMA-STOR OR THERMA-STOR'S AGENTS ONLY. REFRIGERANT, PIPING, SUPPLIES, TRANSPORTATION COSTS, LABOR COSTS INCURRED IN REPAIR OR REPLACEMENT OF SUCH COMPONENTS ARE NOT INCLUDED. THIS DISCLAIMER AND EXCLUSION SHALL APPLY EVEN IF THE EXPRESS WARRANTY AND LIMITED REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE. CUSTOMER ACKNOWLEDGES THAT NO REPRESENTATIVE OF THERMA-STOR OR OF ITS AFFILIATES OR RESELLERS IS AUTHORIZED TO MAKE ANY REPRESENTATION OR WARRANTY ON BEHALF OF THERMA-STOR OR ANY OF ITS AFFILIATES OR RESELLERS THAT IS NOT IN THIS AGREEMENT. Notwithstanding the above, during the term of the One-Year Warranty only, Therma-Stor will provide, free of charge to Customer, all Components and labor (except costs related to removal and installation of Product) required to fulfill its obligations under such One-Year Warranty.

**Disclaimer of Warranties.** EXCEPT FOR ABOVE LIMITED WARRANTY, WHICH IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED WITH RESPECT TO THE PRODUCT AND ITS COMPONENTS, THERMA-STOR HEREBY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**Warranty Limitations.** The foregoing limited warranty extends only to a Customer and shall be null and void upon attempted assignment or transfer. A "defect" under the terms of the limited warranty shall not include problems resulting from Customer's or Customer's employees', agents', invitees' or a third party's misuse, improper installation, improper design of any system in which the Product is included, abuse, lack of normal care, failure to follow written instructions, tampering, improper repair, or freezing, corrosion, acts of nature or other causes not arising out of defects in Therma-Stor's workmanship or material. If a Product or Component is replaced while under warranty, the applicable limited warranty period shall not be extended beyond the original warranty time period. The limited warranty does not cover any costs related to changes to a Product or Component that may be required by any codes, laws, or regulations that may become effective after initial purchase of the Product by Customer.

**Customer Responsibilities.** As a further condition to obtaining warranty coverage hereunder, the Customer must send a valid warranty claim to Therma-Stor such that Therma-Stor receives such claim prior to the end of the applicable warranty period. Therma-Stor shall have no obligation hereunder with respect to any claim received by Therma-Stor after the expiration of the applicable warranty period. As a further condition to obtaining warranty coverage hereunder, the Customer must present forms of invoices evidencing proof of purchase of a Product. If such invoices do not clearly indicate the date of initial purchase by a Customer, the applicable Product's date of manufacture will be used instead of the date of initial purchase for the purpose of calculating the commencement of the applicable warranty period. Warranty service must be performed by Therma-Stor or a servicer authorized by Therma-Stor. In order to obtain warranty service, the Customer should call Therma-Stor at 1-800-533-7533 and ask for the Therma-Stor Products Service Department, which will then arrange for applicable warranty service. Warranty service will be performed during customary, daytime working hours. If the Product must be shipped for service, Customer shall be solely responsible for properly packaging the Product, for all freight charges, and for all risk of loss associated with shipment.

**Limitation of Liability.** IN NO EVENT SHALL THERMA-STOR, IN CONNECTION WITH THE DESIGN, SALE, INSTALLATION, USE, REPAIR, REPLACEMENT OR PERFORMANCE OF ANY PRODUCT, COMPONENT, PART THEREOF OR WRITTEN MATERIAL PROVIDED THEREWITH, BE LIABLE, TO THE EXTENT ALLOWED UNDER APPLICABLE LAW, UNDER ANY LEGAL THEORY FOR ANY SPECIAL, DIRECT, INDIRECT, COLLATERAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, THE SOLE AND EXCLUSIVE LIABILITY OF THERMA-STOR, REGARDLESS OF THE NATURE OR THEORY OF THE CLAIM, SHALL UNDER NO CIRCUMSTANCES EXCEED THE PURCHASE PRICE OF THE PRODUCT, COMPONENT OR PART UPON WHICH THE CLAIM IS PREMISED.

**Applicable Law and Venue.** ANY ARBITRATION, ENFORCEMENT OF AN ARBITRATION OR LITIGATION RELATED TO THE PRODUCT WILL BE BROUGHT EXCLUSIVELY IN DANE COUNTY, WISCONSIN, AND CUSTOMER CONSENTS TO THE JURISDICTION OF THE FEDERAL AND STATE COURTS LOCATED THEREIN, SUBMITS TO THE JURISDICTION THEREOF AND WAIVES THE RIGHT TO CHANGE VENUE. CUSTOMER FURTHER CONSENTS TO THE EXERCISE OF PERSONAL JURISDICTION BY ANY SUCH COURT WITH RESPECT TO ANY SUCH PROCEEDING.

**Miscellaneous.** If any term or condition of this Limited Warranty is found by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable, the same shall not affect the other terms or conditions hereof or thereof or the whole of this Limited Warranty. Any delay or failure by Therma-Stor to exercise any right or remedy will not constitute a waiver of Therma-Stor to thereafter enforce such rights.

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